



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

OCT 4 2000

400 Seventh St., S.W.
Washington, D.C. 20590

DOT-E 10407
(FOURTH REVISION)

EXPIRATION DATE: **September 30, 2002**

(FOR RENEWAL, SEE 49 § CFR 107.109)

1. GRANTEE: TN Technologies, Inc.
Round Rock, TX
2. PURPOSE AND LIMITATIONS:
 - a. This exemption authorizes the manufacture, mark, sale and use of non-DOT specification packaging described as a hermetically sealed electron tube device or ionization chamber for the transportation in commerce of Division 2.2 materials authorized by this exemption. This exemption provides no relief from any Hazardous Materials Regulation (HMR) other than as specifically stated herein.
 - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302 and 175.3 in that the electron tube is not an authorized packaging.
5. BASIS: This exemption is based on the application of TN Technologies, Inc. dated September 7, 2000, submitted in accordance with 49 CFR § 107.109.

OCT 4 2000

Continuation DOT-E 10407 (4th Rev.)

Page 2

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Material Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Hexafluoroethane compressed, R116	2.2	UN2193	N/A
Xenon, compressed	2.2	UN2036	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification metal, single trip, inside container, described as a hermetically sealed electron tube radiation detector or ionization chamber. The design of the radiation detector or ionization chamber assembly must conform to TN Technologies' drawing numbers as listed in the table "Drawings and Dimensions for Ion Chambers" submitted with the application, and on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA). Each radiation detector or ionization chamber must conform with the following design criteria:

Inside diameter: 2.87 inches to 5.87 inches
Gas volume: 25.88 to 640.07 cubic inches
Operating pressure: 105 psig
Minimum burst pressure:

- o Three times the design pressure if equipped with a pressure relief device; or
- o Four times the design pressure if not equipped with a pressure relief device.

b. OPERATIONAL CONTROLS -

(1) The radiation detector or ionization chamber must be shipped inside a styrofoam lined, strong outside container as shown on Western Industries Corporation Drawing A370 Rev. A on file with OHMEA.

OCT 4 2000

(2) If repackaged, packagings used to ship larger equipment containing radiation sensors or ionization chambers covered by this exemption must be in strong outside packagings providing equivalent protection for the devices as specified in paragraph 7.b.(1) above.

(3) Emergency response information provided with the shipment, and available via an emergency response telephone number, must indicate those receptacles that are not fitted with pressure relief devices and provide appropriate guidance for exposure to fire.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modifications or changes are made to the package and it is offered for transportation in conformance with this exemption and the HMR.

c. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this exemption must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

e. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

f. Except when offered for transportation by air:

(1) Packages covered by this exemption are excepted from labeling requirements of Subpart E of 49 CFR Part 172.

(2) Shipments are not subject to the placarding requirements of Subpart F of 49 CFR Part 172.

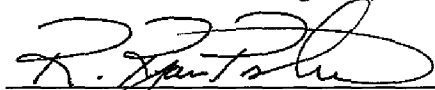
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft.
10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel or aircraft used to transport packages covered by this exemption. The shipper must furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
 - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued at Washington, D.C.:



for Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

OCT 4 2000

(DATE)

OCT 4 2000

Continuation DOT-E 10407 (4th Rev.)

Page 5

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.
Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation, 400 7th Street, Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

PO: S.Staniszewski/alb